

I claim:

1. A scanner for scanning an object, comprising:
2 first and second light monitor elements; and
3 a scanning system including
4 a sensor,

5 a light source adapted to direct light onto
6 the object and onto the first and second light monitor
7 elements such that light is reflected from the object and
8 first and second light monitor elements, and

9 a light redirection system operable in a
10 first mode to focus light reflected from the object and
11 the first light monitor element onto the sensor and
12 operable in a second mode to focus light reflected from
13 the object and the second light monitor element onto the
14 sensor.

1 2. A scanner as claimed in claim 1, wherein the
2 sensor comprises a plurality of sensing elements.

1 3. A scanner as claimed in claim 1, wherein the
2 sensor comprises a charge coupled device.

1 4. A scanner as claimed in claim 1, wherein at
2 least one of the first and second light monitor elements
3 comprise white light monitor elements.

1 5. A scanner as claimed in claim 1, wherein each
2 of the first and second light monitor elements comprise
3 white light monitor elements.

1 6. A scanner as claimed in claim 1, wherein the
2 light source comprises a lamp.

1 7. A scanner as claimed in claim 1, wherein the
2 object is scanned in a scan direction and the first and
3 second light monitor elements are offset in the scan
4 direction.

1 8. A scanner as claimed in claim 7, wherein the
2 first and second light monitor elements are offset in a
3 direction perpendicular to the scan direction.

1 9. A scanner as claimed in claim 7, wherein the
2 sensor includes a reference area and the light reflected
3 from the first light monitor element is reflected onto the
4 reference area in the first mode and light from the
5 second light monitor element is reflected onto the
6 reference area in the second mode.

1 10. A scanner as claimed in claim 7, wherein the
2 scanning system sequentially scans linear portions of the
3 object that define scan lines and the scan lines in the
4 first scanning mode are longer than the scan lines in the
5 second scanning mode.

1 11. A scanner as claimed in claim 10, wherein the
2 scan lines define longitudinal ends and the first light
3 monitor element is located at one of the longitudinal
4 ends of the scan lines scanned in the first mode and the
5 second light monitor element is located at one of the
6 longitudinal ends of the scan lines scanned in the second
7 mode.

1 12. A scanner as claimed in claim 1, wherein the
2 light redirection system includes first and second lens
3 assemblies, the first lens assembly being movable between
4 first operable and non-operable positions and the second

5 lens assembly being movable between second operable and
6 non-operable positions.

1 13. A scanner as claimed in claim 12, wherein the
2 first operable position is offset from the second
3 operable position in at least one direction.

1 14. A scanner for scanning an object in a scan
2 direction, comprising:

3 a housing including a window;
4 first and second light monitor elements
5 associated with the window and offset from one another in
6 the scan direction; and

7 a scanning system including a sensor, the
8 scanning system being operable in a first mode to focus a
9 region of the object and the first light monitor element
10 onto the sensor and operable in a second mode to focus a
11 region of the object and the second light monitor element
12 onto the sensor.

1 15. A scanner as claimed in claim 14, wherein the
2 first and second light monitor elements are offset from
3 one another in a direction perpendicular to the scan
4 direction.

1 16. A scanner as claimed in claim 14, wherein the
2 sensor includes a sensing area, the region scanned in the
3 first mode is longer than the region scanned in the
4 second mode and the regions occupy the same length of the
5 sensor sensing area in the first and second modes.

1 17. A scanner as claimed in claim 14, wherein the
2 respective regions scanned in the first and second modes
3 define first and second scan lines each having opposing

4 longitudinal ends, the first light monitor element being
5 located at one of the longitudinal ends of the first scan
6 line and the second light monitor element being located
7 at one of the longitudinal ends of the second scan line.

1 18. A method of scanning an object with a scanner
2 including first and second light monitor elements and a
3 sensor, comprising the steps of:

4 directing light onto the object and onto the
5 first and second light monitor elements such that light
6 is reflected from the object and the first and second
7 light monitor elements; and

8 directing a portion of the reflected light from
9 the object and only the first light monitor element onto
10 the sensor in a first mode of operation.

1 19. A method as claimed in claim 18, further
2 comprising the step of:

3 directing a portion of the reflected light from
4 the object and only the second light monitor element onto
5 the sensor in a second mode of operation.

1 20. A method as claimed in claim 19, wherein the
2 light reflected from the first and second light monitor
3 elements is directed onto the same portion of the sensor.

1 21. A method as claimed in claim 20, wherein the
2 light directed onto the sensor in the first mode
3 corresponds to a larger portion of the object than the
4 light directed onto the sensor in the second mode.